



Entergy Operations, Inc.  
River Bend Station  
PO Box 220  
St. Francisville, LA 70775

February 11, 1994

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

SUBJECT: River Bend Station - Unit 1  
Docket No. 50-458  
License No. NPF-47  
Licensee Event Report 50-458/94-004-00  
File Nos. : G9.5, G9.25.1.3

RBG-40063

Gentlemen:

In accordance with 10CFR50.73(a)(2)(i)(B), enclosed is the subject report.

Very truly yours,

James. J. Fisicaro  
Manager - Safety Assessment  
and Quality Verification  
River Bend Nuclear Group

Enclosure

181174

9402280091 940211  
PDR ADDCK 0500045B  
R PDR

*JEZ*

cc: U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011

NRC Resident Inspector  
P.O. Box 1051  
St. Francisville, LA 70775

INPO Records Center  
700 Galleria Parkway  
Atlanta, GA 30339-5957

Mr. C.R. Oberg  
Public Utility Commission of Texas  
7800 Shoal Creek Blvd., Suite 400 North  
Austin, TX 78757

Louisiana Department of Environmental Quality  
Radiation Protection Division  
P.O. Box 82135  
Baton Rouge, LA 70884-2135  
ATTN: Administrator

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	RIVER BEND STATION	DOCKET NUMBER (2)	05000458	PAGE (3)	1 OF 4
-------------------	--------------------	-------------------	----------	----------	--------

TITLE (4)	UNIDENTIFIED NON-CONSERVATIVE ALARM SETPOINT FOR LIQUID RADWASTE GROSS ACTIVITY MONITOR DUE TO INADEQUATELY CONVEYED SUPERVISORY EXPECTATIONS CONCERNING QUALITY TECHNICAL REVIEWS
-----------	--

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
01	13	94	94	-- 004 --	00	02	11	94	FACILITY NAME	DOCKET NUMBER 05000
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)	071	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)		
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)		
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER		
		20.405(a)(1)(iii)		X 50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)		
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)				
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)				

LICENSEE CONTACT FOR THIS LER (12)	
NAME DAVID N. LORFING, SUPERVISOR - NUCLEAR LICENSING	TELEPHONE NUMBER (Include Area Code) (504) 381-4157

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO						

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

During a Quality Assurance audit of the Offsite Dose Calculation Manual (ODCM) on January 13, 1994, a non-conservative alarm setpoint for the liquid radwaste gross activity monitor, 1RMS-RE107, was identified. The alarm set point was non-conservative with respect to the limits required by Technical Specification 3.11.1.1 and the ODCM. This condition is contrary to Technical Specification 3.3.7.10.

An error in the setpoint calculation existed in the ODCM from 1985 until the calculation was revised in June 1993. During this time period, supervision did not adequately convey expectations concerning quality technical reviews nor assure quality technical reviews for seven different revisions of the ODCM. In addition, the ODCM change in June 1993 was not adequately communicated to the department responsible for the implementing procedure. This procedure has been revised to assure that the alarm setpoint will be properly set for each batch release. Administrative controls combined with the results of a condition report database search provide confidence that the concentrations of both gamma and beta emitting radionuclides released to the unrestricted area have been below the limits specified in Technical Specification 3.11.1.1, 10CFR20, Appendix B and 10CFR50, Appendix I.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
RIVER BEND STATION	05000458	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		94	-- 004 --	00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

**REPORTED CONDITION**

During a Quality Assurance audit of the Offsite Dose Calculation Manual (ODCM) on January 13, 1994, with the reactor at 71 percent power (Operational Condition 1), a non-conservative alarm (\*RA\*) setpoint for the liquid radwaste gross activity monitor (\*MON\*), 1RMS-RE107, was identified. The alarm setpoint was non-conservative with respect to the limits required by Technical Specification 3.11.1.1 and the ODCM. This condition is contrary to Technical Specification 3.3.7.10; therefore, this report is submitted pursuant to 10CFR50.73(a)(2)(i)(B) as operation prohibited by Technical Specifications.

**INVESTIGATION**

During the QA audit it was found that the alarm setpoint for monitor 1RMS-RE107 was not determined in accordance with the methodology in the ODCM. Following identification of the condition, the Shift Supervisor immediately suspended the liquid release that was in progress and declared the monitor inoperable.

The monitor alarm setpoint calculation methodology, used in the ODCM, was revised in June 1993. The methodology used in the ODCM prior to the June 1993 revision was in error and established the non-conservative alarm setpoint for monitor 1RMS-RE107. The Chemistry procedure implementing the setpoint calculation was not revised in June 1993 to be consistent with the ODCM. Therefore, the implementing procedure and the ODCM provided different values for the alarm setpoint. This discrepancy led to the discovery of the condition.

The error in the ODCM from 1985 to June 1993 consisted of an error in one of the terms in the setpoint equation. It was based on accounting for total activity, the activity associated with the sum of the beta and gamma emitting radionuclides. The detector for monitor 1RMS-RE107 is designed to detect gamma radiation only. Therefore, when the beta activity was added to the gamma activity, the setpoint established was non-conservative.

An issue related to this event is that the Chemistry procedure implementing the alarm setpoint was not identified as requiring revision when the ODCM was revised. If this had occurred, it would have presented an opportunity to identify the discrepancy and correct the setpoint in June 1993.

The June 1993 revision of the ODCM was to incorporate new computer software based on the methodology described in NUREG-0133, "Preparation of Radiological Effluent Technical Specifications

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
RIVER BEND STATION	05000458	94	-- 004 --	00	3 OF 4

TEXT (if more space is required, use additional copies of NRC Form 366A) (17)

for Nuclear Power Plants. A Guide Manual for Users of Standard Technical Specifications." The dose calculations in the ODCM were verified to be in accordance with NUREG-0133. All gaseous effluent setpoints have been verified to be in accordance with the ODCM using NUREG-0133 methodology. NUREG-0133 does not provide a formula for liquid effluent setpoint determination and the new software does not calculate this setpoint; therefore, the calculation of the alarm setpoint for 1RMS-RE107 was not verified in June 1993.

**ROOT CAUSE**

Personnel apparently did not recognize the non-conservatism introduced into the original ODCM calculation methodology by accounting for total activity when the ODCM was developed. A total of seven revisions of the ODCM did not result in detection of the error. Root cause analysis revealed the following causal factors:

- Supervision did not adequately convey expectations concerning quality technical reviews and assure quality technical reviews for revisions of the ODCM.
- Analysis of the failure to revise the Chemistry procedure implementing the alarm setpoint revealed that the ODCM change was inadequately communicated to Chemistry. In addition, the Chemistry procedure and the ODCM were not cross-referenced.

**CORRECTIVE ACTION**

The procedure establishing the alarm setpoint for monitor 1RMS-RE107 has been revised to assure that the alarm setpoint will be properly set for each batch release.

A cross-reference between the ODCM and the implementing procedure will be developed as a reference to assure consistency between the documents following changes. Revisions to either document will require cross-disciplinary reviews by Chemistry and Radiological Engineering personnel.

A review of the ODCM will be performed to determine if other procedures can be affected by revisions. As appropriate, cross-reference documentation will be developed. These actions will be completed by March 15, 1994.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
RIVER BEND STATION	05000458	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
		94	-- 004 --	00	

TEXT (if more space is required, use additional copies of NRC Form 366A) (17)

SAFETY ASSESSMENT

Discharges monitored by 1RMS-RE107 are exclusively released in batches and analyzed prior to release. The most likely scenarios which could result in a release of concentrations in excess of the pre-release determination of a given batch are (1) release from the wrong tank and (2) water addition to a tank during a release. Based on review of the condition report database, there is no record that either of these events have occurred. The administrative controls for batch releases require that (1) a sample be analyzed and (2) the release rate calculations and discharge line valving be verified before the liquid can be discharged. These administrative controls are similar to the actions required by Technical Specification 3.3.7.10-1 when the monitor is inoperable. The difference between them is that the action statement requires independent samples and two individuals to independently verify the release rate calculations and discharge line valving. The administrative controls combined with the results of the condition report database search provide confidence that the concentrations of both gamma and beta emitting radionuclides released to the unrestricted area have been below the limits specified in Technical Specification 3.11.1.1, 10CFR20, Appendix B and 10CFR50, Appendix I.

Note: Energy Industry Identification System codes are indicated in the text as (\*XX\*).